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RECOMMENDATIONS FOR FUTURE
ARMY ANALYSIS EFFORTS

Volume II

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PRIORITIES AND KEY QUESTIONS FOR
CRITICAL POLICY ISSUES
AND
RECOMMENDATIONS FOR FUTURE ANALYSIS EFFORTS
ON
CONVENTIONAL CAPABILITY AND INTEROPERABILITY

Prepared for the U.S. Army
Study Program Management Agency
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by
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The Contractor, NEW PERSPECTIVES CORPORATION, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. MDA 903-87-C-0756 is complete, accurate, and complies with all requirements of the contract.

14 April 1988
Date

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We also wish to express our appreciation to those with whom we worked closely on these activities from the outset, Joann Langston and Eugene Visco, Directors of the Study Program Management Agency (SPMA). We are especially appreciative of the substantive and administrative inputs and support by the COR, LTC Gary Cochard. We found his participation to be extremely knowledgeable, competent and helpful; much more so than most of the CORs with whom we have worked for so many years.

New Perspectives

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This volume is one of four, the subtitles of the other volumes are:

- I Results of Workshops with Senior Army Leadership and Managers
- III Key Questions and Recommendations for Future Analysis Efforts on Sustainability
- IV Key Questions and Recommendations for Future Analysis Efforts on Explaining the Army and Supporting the Soldier

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I INTRODUCTION

A. Background

Challenges facing the Army arise from many conditions and forces for change in the United States and abroad. Certain issues that should be addressed are obvious because they stem from current or near-term conditions. However, numerous situations likely to face the Army can impact areas that involve long lead times. Thus, many subtle factors shaping current policies and programs require analyses and insights about a wide range of conditions that could exist well into the future.

In 1983 and 1984 the Issue Assessment Process (IAP) was designed and implemented through a series of interviews, internal and external to the Army, to identify and prioritize critical issues. Literally hundreds of issues were nominated, and they were subsequently consolidated and sorted into less than ten broad policy areas so that analysis resources could be directed at their resolution.

The DOD Reorganization Act of 1986, the emerging INF Treaty, new moves to conventional arms control, shifting international relations and technological change are generating new issues that will have major impacts on appropriate Army policies and actions. These recent events have re-emphasized the importance of spotlighting issues, allocating resources to address them and assigning accountability for the analyses and actions needed. Army top management intends to use the IAP as a means of precluding crises, i.e., as a mechanism to detect issues, focus resources, conduct analyses, communicate results and take actions in a timely manner.

During 1987 the list of priority issues was updated through input from several sources, including inputs from the Chief of Staff and the CINCs, plus a number of comments from a recent Senior Army Commanders' Conference. Five broad policy issues, currently of major importance, were identified and defined as follows:

- 1, Conventional Capability: enhancing conventional force structure in light of INF and/or conventional arms control, including doctrine for balancing the requirements of low intensity conflict with other needs.
- 2, Interoperability: providing effective deterrence and warfighting capability in operations that include the other services and forces of our allies in various theaters.
- 3, Sustainability: measuring the ability to sustain combat forces in various theaters and levels of conflict and advising commanders of the implications of alternative operations.

4. Explaining the Army: explaining the Army's contribution to National Defense to a variety of audiences.
5. Supporting the Soldier: providing appropriate facilities, support services and financial compensation to the soldier and his/her family to address their physical, mental and economic needs and, thus, maintain a loyal, motivated force.

B. Objectives

The central purpose of the activity described in this report was to help establish guidelines for future analysis efforts. These guidelines were not intended to disrupt, but they may modify, the FY 1988 Study Program. They will be used to help direct the program for FY 1989 and beyond.

The session reported on here was the first of a series of meetings and workshops treating the issues described earlier. The series was expected to last about three months, after which time it was intended to reach broad agreement by June of 1988 on appropriate guidelines for the analysis program, with final results then discussed with the Study Program Coordinating Committee.

This first session was held on 6-7 January 1988 at the National Defense University, it consisted of a management session, followed by briefings from analytical agencies on the status of analysis and workshops to develop recommendations for future analysis efforts. The workshops included action officers from staff agencies and members of the analytical community. This first session was designed, so that participants could:

- Nominate critical questions for the issues; especially those regarding Conventional Capability and Interoperability (the subjects of the two workshops at this session).
- Review the status of analyses on topics related to the above two issues.
- Describe actions already taken or underway as a result of analytic efforts.
- Identify areas where additional program resources are required.

C. Session Design

Activities of this first session required two days. The agenda covered:

- An introduction to the overall process and its objectives
- A management session where priority ratings were provided for the five issues and an initial list of questions relevant to the issues were nominated and assigned relative importance
- Presentations by the analytical community on the existence of and possible gaps in studies relevant to the issues of Conventional Capability and Interoperability and the related questions that were nominated
- Workshops to develop recommendations for analysis efforts that would address the critical questions and, thus, allow resolution of the issues

The complete agenda for the session is shown in Appendix A.

The management session involved senior managers and directors from the Army Staff, the Secretariat and the analytical community. The workshops involved action officers from those agencies. A complete list of attendees in both days of the session is presented in Appendix B. Every effort was made to encourage open dialogue between the analytical and the Army Staff agencies during both the status reports by the analytical community and the reports from the workshop groups about recommended analysis efforts. Highlights of the comments and ensuing discussions during the status reports on the first day are shown in Appendix C.

Day Two began with a brief reiteration by Mr. Becker of New Perspectives Corp ((NPC), the contractor for the workshops) of the planned activities for each workshop and the presentations expected from them on their recommendations for future analysis efforts. The participants then were assigned by LTC Cochard/SPMA (the proponent for the IAP) to individual workshops for each issue. The assignments are listed in Appendix D. Each group was asked to recommend future analysis efforts based on the questions nominated during the management session on Day One. These recommendations were to include:

- Elements of analysis/topical areas
- Performer(s)
- Sponsor(s)
- Other appropriate considerations (e.g., potential analytical methods, time/schedule)

To assist the individual groups, NPC prepared a list of potential typical areas for analyzing each issue. These lists are presented in Appendix E, in a format known as a "relevance tree".

The morning of the second day was devoted to the individual group workshops. In the afternoon, a presenter chosen by each group summarized the group's recommendations. Their recommendations, and highlights of discussions among the participants are presented in the next session along with highlights of the management session.

The entire series of planned meetings was meant to invite the analytical community to become involved in setting guidelines for its own future work. This was done to harness the power and intellect of the participants and thus develop succinct statements of appropriate analyses, and ultimately, develop a coordinated program of Army analysis upon which policies and actions will be based.

II PRIORITIES FROM THE MANAGEMENT SESSION

It would be difficult to recount all the rich dialogue engendered by a meeting of almost two hours among leaders of the Army Staff, Secretariat and analytical community. (Participants in the session are listed in Appendix B.) Ultimately one must resort to examination of the set of questions openly nominated and anonymously rated in the course of their work.

The first activity of the management session was prioritizing the current policy issues. Each issue was rated on a scale from 0 to 10, with 10 being of greatest importance. The following shows the mean (average) of the groups' judgement, i.e., of the 23 persons voting.

- Conventional Capability, 8.2
- Explaining the Army, 8.0
- Sustainability, 7.4
- Supporting the Soldier, 7.1
- Interoperability, 6.4

Next, the participants nominated questions they believed were key or critical to understanding the issues and, hence, the Army's ability to formulate appropriate actions (i.e., to resolve the issue in question). Particular emphasis was placed on questions for Conventional Capability and Interoperability, the subjects of the ensuing workshops. A priority rating was then provided by the group for each question that had been nominated. The results of the priority ratings for the importance of the five policy issues and the nominated questions are shown in Appendix F. A limited number of questions were provided for the other issues as well. They were addressed in subsequent workshops along with additional questions that were invited from leaders of the Staff and Secretariat before the next workshops.

Some of the comments offered during the management session follow:

-The INF Treaty represents both an opportunity and a risk to the Army. This, and the Army's response to conventional arms reduction, will shape the Service for years to come. Now is the time to re-examine the Army's mission; it is too intertwined with the other Services. A distinction must be made, to the degree it exists, between deterrence and warfighting capability, especially with respect to low-intensity conflict.

-Recognize that national defense has major political dimensions and another election is just around the corner. The

Army must become more active in its relationship with Congress. It must plan for constrained resources but it also must articulate its needs while refusing to accept unrealistic global responsibilities and meekly promising to do its best with what is made available. All officers must be educated in public/governmental affairs and a theme should be developed to convey a consistent and plausible message.

-The Army must examine the relationships between enhanced strategic/tactical mobility of heavy forces and deterrence/survivability. Also, there needs to be better recognition of new specialties when manning the Total Army and a better definition of war reserves necessary for our allies to sustain combat.

-The Army needs a new organizational structure for decision making. It must eliminate unnecessary redundancies. The current requirements generation process is sometimes ad hoc and reactive. The Soviets field three new systems to every one system we field over a typical span of 20 years. Furthermore, they upgrade while we discard existing systems. So we are often saddled with equipment that is too complex technically, thus, exacerbating both training and maintenance costs.

-Analytically tractable Army studies are often too narrow and the systems they treat are too limited. The studies should integrate over all issue areas and consider secondary consequences. Trade-off studies are key to successful effort here and they can be kept internal to the Army while covering joint/combined operations, extensions beyond the approved threat and much more sensitivity analysis.

III RECOMMENDATIONS FROM WORKSHOPS

A. Overview

On the second day, participants were divided into five groups and asked to develop no more than five recommended study topics for each of the questions assigned to them. Three groups were assigned five questions related to Conventional Capability. One group nominated a new question under which it suggested two study topics. Not all groups chose to answer each question assigned, asserting that some of their questions were subsumed by others. Two groups were each assigned the four questions related to Interoperability. One group chose to redefine slightly the definition of Interoperability and nominated five new questions, under which 22 study topics were suggested. And one question was thought to be subsumed by others. Hence, no two groups addressed the same questions. Nor were the new questions nominated by the workshop groups subjected to the rating process.

Participants in and presenters for the workshops are listed in Appendix D. The following material was drawn from the presentations by each workshop group. Each of the questions addressed by the group, including new ones the individual groups offered, is shown. Each question is followed by a listing of the group's Recommended Elements of Analysis, or topical areas, it believed should be treated in future analysis efforts. Suggestions about the date when results are needed, the performer(s) and the sponsor(s) also are shown when they were provided by the group.

Comments and observations made by participants during the group's presentation of its recommendations also are included. We kept these items as close as possible to the way in which they were offered (i.e., as we noted them during the discussions). We believe the comments and observations shown here help explain reasons underlying the recommendations. In certain instances the discussion among the participants on a question or set of recommendations includes important differences of opinion. These comments and observations from the participants should help those who ultimately will provide guidance about the validity and relative priority among the items recommended for future analysis.

B. Conventional Capability

(The group combined the following questions in preparing its recommendations.)

QUESTIONS: (1, 7 & 13)

- What are the shortcomings in the Army's ability to perform its role in the Air-Land Battle and what steps should be taken to remove them?
- Are there differences and important consequences in being prepared to deter versus successfully engaging in warfighting?
- How can intratheater/tactical mobility of friendly forces be improved?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Organizations and systems to conduct the Air-Land Battle (i.e., integrated analyses under realistic and consistent assumptions)		Task Force DCSOPS (e.g., CAA, TRADOC, AWC, AMC)	
- Adequacy of force structure and remedies needed		Task Force DCSOPS (e.g., CAA, TRADOC, AWC, AMC, CAC, DA)	
- Ways to improve intratheater tactical mobility		Task Force DCSOPS/ (e.g., CAA ACE TRADOC, AWC, AMC, CAC, DA)	
- Minimum Sustainability to support deterrence and warfighting		Task Force DCSOPS/ (e.g., CAA DCSLOG TRADOC, AWC, AMC, CAC, DA)	

- Required manpower, inventory, skills to support the Air/Land Battle

Task Force DCSOPS/
(e.g., CAA DCSPER
TRADOC,
AWC,
AMC,
CAC, DA)

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Much work already has been done in this area, for example as in the case of the CAA. But someone needs to pull together all the work that has been done.
- Much information is available but it needs to be pulled together and sold better.
- The assumptions used in the studies to date were very optimistic (e.g., on available resources).
- Manual war gaming is highly effective. It gets many people and their lieutenants involved. It can be accomplished more quickly than computer based gaming.
- There's an inability to include the active threat in computer models. In a recent manual war gaming exercise, when the Red commander played the role of the Red commander again it was obvious that he had learned; i.e., he reduced his losses in the second play.
- Can the deep fire be counted on operationally? For example, we haven't looked at jamming regarding Blue reconnaissance.
- Our tools are inadequate.
- The European environment will change.
- There is a lack of non-U.S. threat data and a big gap in non-U.S. NATO data. For example, how will the Germans or French really fight? Therefore, how do we really model? They are a static blob and we really must include them in simulation gaming.
- The Germans and French have undergone major changes in force structure. We must relook at assumptions.
- The most qualified U.S. officer will not be able to simulate Soviet officers, and not even non-U.S. NATO officers.
- We propose manual gaming as a center piece which can then be used with computer gaming.
- To develop Army policy on the basis of war games is a mistake.
- Operators misuse the study products. They choose from the study what they want regarding policy formulation.

- Tools do not really allow the ability to analyse Joint and Combined operations.
- The more approaches that are used, the more likely you are to come up with the truth.
- We must include other locales than Europe to see if our concepts, approaches, etc. are adequate.

* * * * *

QUESTIONS: (4, 10)

(The group combined the following questions in preparing its recommendations.)

- How should the requirements generation process be changed to improve the Army's ability to perform an appropriate mission in National Defense?
- What should be done to remove shortcomings in the Army's organizational structure?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Optimal corporate structure for the Army		RAND	SECAR/ DM
- Investment strategy to optimize capability through product improvements and new systems		Task Force SARDA (ABO, CAA, Comptroller, SSI)	

COMMENTS FROM WORKSHOP PARTICIPANTS:

- The structure of our organization generates requirements, and that's not right.
- The Soviets upgrade as they go. We slam the door on systems as new systems come along. What is the best way? The "phase in" approach is being addressed now.
- There really are some process problems. It takes much longer to develop a piece of paper saying we want the system than to do the R&D on the system.
- We must really improve our ability to get requirements from the field into the requirements generation system.

- There is no formal study addressing the acquisition process, even though there has been much talk and attention given to the subject.
- The Army does too many things in bits and pieces, which may be a problem of structure; of the way the the Analysis community does its work.
- CINCs are responsible for fighting the battle tomorrow. It's hard for them to look out and they (only) are responsible for their theatre.
- Let's not become too complacent. We should build a doctrine to win. But we are never able to resource it. We must be able to steal dollars from the Navy and Air Force.
- There is no Czar of acquisition that pulls people and things together for the Army. There also is no Czar for separation.

* * * * *

QUESTION: (2)

- How can the Army's non-combat resources (e.g., medical services, engineering) be used to deter low intensity conflict?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Ways to build alliances using non-combat forces	12 Mos.	Harvard Fellows	DAMO-SS
- Ways to mesh Army activities with foreign policy	12 Mos.	Academia	ASA

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Its not just deterrence, its also alliances. The Department of State needs to be a player.
- We should not turn the problem over to Special Forces.
- When we provide medical aid to a nation, its because it has been asked for by the nation. Our efforts must be ongoing. We must not stop and start regarding Department of State policy (i.e., as DOS does).

* * * * *

QUESTIONS: (5, 8, 11 & 14)

(The group combined the following questions in preparing its recommendations.)

- What approaches should be used to ensure that the Army is properly manned, including civilian and military personnel?
- What is the optimal mix of Active, Reserve, and National Guard forces?
- Should the Army conduct political gaming, and if so, how?
- What is the impact of allocating resources on the basis of "sharing the wealth/getting a piece of the pie"?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Appropriate authority to control manning of the force		Sr. Special Study Group	
- Ways to build a wartime force			

COMMENTS FROM WORKSHOP PARTICIPANTS:

- People who nominated the question should be scolded for missing the point, which is: Who is really in control?
- We have 80,000 studies out there. Who is drawing them together and integrating them?

* * * * *

NEW QUESTION FROM GROUP: (16)

- What are the roles, missions and functions of the Army today, in the near term and in the future? (Unrated)

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Military strategies to deter, contain or defeat the enemy within national strategic guidelines			

- Definitions of success and failure for various situations/missions

COMMENTS FROM WORKSHOP PARTICIPANTS:

- We really need, therefore, to redefine the problem: what is the role of the Army?
- No one really defined success. For example, in simulation when we throw the Red team back to the border, the exercise stops. But the Army's role/strategy should not stop there and then.
- The questions are down in the weeds, they are too current and they do not address the real question.
- We do not need a study on national strategy. The senior leaders know what the strategy is.
- We need a wholeistic approach to the Army wide analysis program. We need a fresh look.
- We have a 70 billion dollar shortfall in our ability to meet our mission. But we still get budget cuts. Nobody really knows, however, what our mission is.

* * * * *

QUESTION: (3)

- What are the opportunities and risks for the Army as a result of the INF treaty?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS</u>		
	<u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- The appropriate post-INF force structure	Short Term		
- Sufficient Conventional Capability in Light of INF	Short Term		
- Additional contribution of NATO Forces in Light of INF	Short Term		
- Impact of the INF Treaty on the Army's ability to conduct its global mission	Short Term		

- Ability of enhanced and coordinated systems to offset risks from the INF Treaty (e.g., CDE/CDI, FOTL, ATACMS, AFV, TTBM, JSTARS, ASAS)
- Short
Term

COMMENTS FROM WORKSHOP PARTICIPANTS:

- What we already have heard from other groups comprises at least one-half of our group's conclusions.
- INF is an exciting time. It's time to restructure the force and educate the population about the Army. The Nunn's are coming over every day to ask what we want. Now is the time when we can experience maximum change and get support to do that.
- There's an Army futures study under Col. Landrey (TRADOC?).
- What is sufficient, what is the magic number? Do we have to re-look 14-3.
- INF focuses on Europe. The Army, however, has a global mission. We are developing an Army for Europe and an Army for the rest of the world (i.e., two Armies).
- All the RAND studies say we need (ATACMs) and that's not valid.

* * * * *

QUESTION: (6)

- What approaches should be used to reduce the time associated with fielding equipment?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Advantages of using evolutionary versus revolutionary approaches to force modernization	Long Term/ Cont.	Contract	TRADOC, AMC, DPSC, PLA
- Streamlining the documentation process	Long Term/ Cont.	Contract	TRADOC, AMC, DPSC, PLA
- Ways to improve the contracting process	Near Term	Contract	TRADOC AMC, DPSC, PLA

- Impacts of interservice/inter-operability factors on time to field equipment	Near Term	Contract	TRADOC, AMC, DPSC, PLA
- Impact of technology on driving organizational design, doctrine, etc.	Near Term	Contract	TRADOC, AMC, DPSC, PLA

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Who is in charge?
- We should be looking at the impact of technology on the battlefield.
- It takes 15 years to develop and field a system. Therefore, the process has to be evolutionary rather than revolutionary.
- It is hard for us to get outside of the POM window. The British always look farther out.
- Most contracting offices supporting the US Army are now located around the world. But we have not necessarily seen a benefit. This is not just an Army problem. Congress delays in releasing funds. But when they do release them, then they say get out and do the job.
- We still have technology driving doctrine rather than setting doctrine and then setting the requirements for technology on the basis of the doctrine.
- TRADOC is addressing the doctrine/technology trade off's. There is a danger to have doctrine set technology and also vice versa.
- We need to fix the contracting process right now. There is a real danger in trying to look at yourself, however. It probably is appropriate for an outside source(s) to help here.

* * * * *

QUESTION: (9)

- How can the Army improve its ability to effectively benefit from visionary/future oriented analysis?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Incorporating field inputs/the soldier in visionary/futures oriented planning		Ongoing Users	
- Ways to identify real problems for the analytical community			
- Ways to improve knowledge of the threats	ASAP		
- Ways to maximize the success/ use of good ideas			

COMMENTS FROM WORKSHOP PARTICIPANTS:

- We have many, "eaches" and everyone is enthralled with their own. This cannot really be visionary or futures looking.
- You can't be visionary if you know what the outcome should be.
- We should go out and talk to the soldier and find out what he needs. There will be many things in the future that soldiers will not be able to do. Thus, we should talk to the soldier and develop modeling studies based on those inputs.
- By the nature of its organization, TRADOC cannot be visionary.
- The use of the Stinger changed all our ideas about the helicopter.
- We continue to suffer from lack of knowledge of the threat.
- There are a lot of things people in this room are doing that we don't know about.
- I've sat in this room and have not heard anything about Korea.
- The intelligence community has not been heard from. They are not considered part of the analytic community.
- We do not want the analytic community to do threat analysis. Intelligence products are deficient form a lack of technical insight. When DIA and CIA come up with different answers there is a tendency to come up with something in between.
- No, we need both answers to see the range of uncertainty. Somehow we (various intelligence groups) have to work together better.

- There are a lot of ideas out there that never make it. They don't make money for anyone and thus are never brought into being. For example, there was the tent on the back of the vehicle.

* * * * *

QUESTION: (12)

- How can strategic mobility/deployment of heavy forces be improved?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Costs of alternative approaches to strategic mobility and deployment of heavy forces		CAA, RAND, MTMC	JCS
- Applications of advanced technology for moving heavy forces		CAA RAND, MTMC	JCS
- Inventory of civilian/private sector transportation resources		CAA, RAND, MTMC	JCS
- Ways to improve transportation assets of the Air Force and Navy		CAA, RAND, MTMC	JCS

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Regarding the fast surface affects ships we heard of yesterday, we can't fund it and the Navy will not fund it.
- Studies assume we can move divisions from coast to coast. But the rail system to do that was torn up 20 years ago.
- Even if we have books on the railroads, that material doesn't tell us what condition railroads are in. No one knows what's with trucking i.e., no one really knows the capability of our domestic transportation system.
- Designs should look into/define what it takes to move equipment, men, etc. It can and should be done in the design phase and the information put into a computer.

* * * * *

QUESTION: (15)

- What should be done to reduce the tendency and consequences of overlooking, ignoring or paying inadequate attention to second-order (i.e., the detailed) items?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- The impact/contribution of second-order items on warfighting capabilities			TRADOC, DCSLOG, DCSOPS
- Incorporating second-order items/ affects in the readiness reporting process/procedures			TRADOC, DCSLOG, DCSOPS
- Modeling CS/CSS capabilities for Conventional Capability			TRADOC, DCSLOG, DCSOPS

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Our first observation is that it got a low rating i.e., no one wants to look in detail.

- You don't want big decision makers down in the weeds. Its easier to answer a detailed question than a higher level, big question.

- The last thing we model in CS and CSS. It is hard and we don't know what and how to do it. We make decisions on fire power and cost, not on how we can support ourselves.

C. Interoperability

QUESTIONS: (1 & 2)

(The following questions were treated jointly by the group)

- What approach should the Army use to understand and address political realities?
- What should be done to improve the Army's ability to accomplish trade-off analysis?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Combat effectiveness of command and control systems, including Joint and Combined operations			
- Identities and roles of Allies and the other Services			
- Application of command and control aspects to current modeling techniques			
- Application/role of advanced computing techniques (e.g., artificial intelligence) to trade-off analyses			

COMMENTS FROM WORKSHOP PARTICIPANTS:

- The first thing the group did was to look at JCS Publication 1 and use its definition for Interoperability.
- There's no way to integrate political reality into the analysis or methodology.

* * * * *

QUESTION: (3)

- What approaches should the Army take to ensure that it develops a "grand strategy" that incorporates the interactions among all top priority issues?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Examination and validation of current approaches to identify Army requirements			
- Resolution of the Army's "identity crisis"; i.e., its mission - requirements - structure			
- Articulation and communication (e.g., to Congress) of the implication of the Army's multifaceted mission requirements (i.e., low to high intensity combat)			
- Incorporating mission analysis into the long range research, development and acquisition planning (LRRDAP) process			
- Ways to integrate political realities, the role of and changes in the industrial base and pork barrel politics in Army planning			
- Incorporating technology changes into the Army's grand strategy (e.g., SDI, directed energy)			

COMMENTS FROM WORKSHOP PARTICIPANTS:

- (NONE NOTED)

* * * * *

QUESTION: (4)

- What should be done to ensure that Allies and friends who have purchased U.S. weapons have and/or receive adequate munitions?

(The group redefined the question as: How should the Army operate/sustain in a Joint/Combined Interoperable environment?)

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Defining effective/flexible standards for Joint/Combined operations and the impacts of not doing that			
- Impacts of differences in equipment and doctrine among ourselves, Allies and friends			
- Impacts of changes in technology on Interoperability			
- Examination of the existing family of models for short-, mid-, and long-term trade-off analysis			
- Impact of not supporting/sustaining differing equipment			
- A method to assess the life-cycle impact of acquiring equipment off-shore			

COMMENTS FROM WORKSHOP PARTICIPANTS:

- Interoperability was not really addressed in the questions offered here. What are talking about is rationalization, which is an economic argument.
- The people yesterday (in the management session who rated the issues and nominated and rated these questions) were Headquarters, Pentagon people. Interoperability is a field problem and it is not clear that once people get to the Pentagon for any length of time they are then able to understand the problem.
- We don't have anything available to allow us to determine the benefit of (e.g., in combat effectiveness) certain improvements in command and control. In other words, we do not have adequate trade-off analysis capabilities.
- Some one outside of our immediate needs to sit down and say that you guys have to be interoperable with your Allies and you are good here and here and deficient here and here.
- Deployment is not the only thing to look at.
- If we all missed it then we need an IOU to tell us what Interoperability is and what we should address.

* * * * *

(This group did not address the above four questions, even though they were assigned to it because. The group believed the questions were not really addressed at Interoperability; that the first question should be integrated into all of the issues, the second moved to Conventional Capability, the third moved to Explaining the Army and the fourth revised as a new set of five(5) questions that follow.)

NEW QUESTION FROM GROUP: (5)

- What are the interoperability problem areas for each theater, and what is the impact on the integrated battlefield?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Measures of effectiveness of Interoperability on the integrated battlefield for the various theaters	CAA, AMC, TRADOC		DCSOPS
- Unique political constraints to Interoperability	CAA, AMC, TRADOC		DCSOPS
- CSS required for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS
- Human Engineering (MANPRINT) requirements for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS
- Doctrinal requirements for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS
- Training requirements for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS
- Equipment requirements for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS
- Resupply requirements for Interoperability in the various theaters	CAA, AMC, TRADOC		DCSOPS

COMMENTS FROM WORKSHOP PARTICIPANTS:

(The following comments apply to this and the remaining questions)

- With the reformulated questions, the real thrust for analysis is to develop models capable of handling the trade-off's/potential problem areas and define implications of shortfall regarding Interoperability.

- Trade-off analyses are required to determine the best mix of weapons to use for various targets.

- We do not have a good way to simulate mortar fire.

- We have cultural problems because of cultural differences and, thus, an inability to really come to grips with Interoperability problems.

- We are in a zero-sum game with the other services when it comes to reprogramming. With radios that operate together, it's not a zero-sum game.

- The ability to operate effectively with other Services and Allies is increasingly important, and we really don't have the ability or models to accomplish trade-off's. For example, if we add ten pounds to the radio to communicate better we think we understand the benefits but, we don't know what we really give up.

* * * * *

NEW QUESTION FROM GROUP: (6)

- What needs to be done to ensure full warfighting capability and interchangeability with our Allies?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Human Engineering requirements for full warfighting and interchangeability with our Allies			
- Political constraints to providing full warfighting and interchangeability with our Allies			
- Standardization (STANAG) agreements to provide full warfighting and interchangeability with our Allies			

* * * * *

NEW QUESTION FROM GROUP: (7)

- What are the critical impacts of failure to achieve interoperability?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE RESULTS NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Mission effectiveness measures/ criteria for Interoperability		AMC, TRADOC, DCSPER (ARI, HEL)	DCSOPS
- CSS requirements under failed Interoperability		AMC, TRADOC, DCSPER (ARI, HEL)	DCSOPS
- Personnel/manpower requirements under failed Interoperability		AMC, TRADOC, DCSPER (ARI, HEL)	DCSOPS
- Resupply requirements under failed Interoperability		AMC, TRADOC, DCSPER (ARI, HEL)	DCSOPS
- Training requirements under failed Interoperability		AMC, TRADOC, DCSPER (ARI, HEL)	DCSOPS
- Cost impacts under failed Interoperability		AMC, TRADOC, DCSPER, (ARI, HEL)	DCSOPS

* * * * *

NEW QUESTION FROM GROUP: (8)

- What actions can be taken to ensure that international standardization and Interoperability are major considerations during the entire materiel acquisition process?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Identification and evaluation of standardization requirements in the current materiel acquisition process and checklists to ensure Interoperability			

* * * * *

NEW QUESTION FROM GROUP: (9)

- How can trade-off analyses be improved to ensure stability in Army programs with respect to the other services?

RECOMMENDED ELEMENTS OF ANALYSIS/TOPICAL AREAS:

<u>ITEM</u>	<u>DATE</u> <u>RESULTS</u> <u>NEEDED</u>	<u>PERFORMER</u>	<u>SPONSOR</u>
- Cataloging current interservice agreements and developing proposals for appropriate new agreements			
- Ways to better interface Army requirements/programs with the other Services			

- A -

AGENDA

- A1 -

WORKSHOP ON
ANALYSIS OF CRITICAL
POLICY ISSUES
6-7 JAN 1988
Hill Conference Center
National Defense University

DAY 1: 6 JAN 1988

MANAGEMENT SESSION:

0800-0930

Opening Remarks

Mr. Hollis

Background

Mr. Visco

Workshop Objectives & Agenda

Mr. Becker

Priority Areas for Analysis

Mr. Becker

- Issues currently of high priority
- Subtopics/Questions requiring analysis

BREAK

0930-0950

WORKSHOP SESSION:

Status Of Current Analysis

0950-1200

- Presentations by the analysis community

(<45 min each)

LUNCH

1200-1315

Status of Current Analysis Continued

1315-1630

Wrap-Up

1630-1700

- Summary
- Activities for Day 2

Mr. Becker

ADJOURN

1700

Day 2: 7 JAN 1988

WORKSHOP SESSION:

0800-0830

Kickoff

- Review of previous day
- Workshop assignments (Teams/Questions)

Mr. Becker
LTC Cochard

Development of Recommended
Analysis Efforts (Group workshops)

0830-1030

BREAK

1030-1045

Recommendations by Each Group

1045-1200

LUNCH

1200-1315

Recommendations by Each Group
(Continued as required)

1315-1515

BREAK

1515-1530

Integration & Prioritization

1530-1630

Wrap-Up

- Summary of workshops
- Next steps/follow-up coordination

1630-1700
Mr. Becker

ADJOURN

1700

- B -

ATTENDEES

ATTENDEES AT

MANAGEMENT SESSION AND WORKSHOPS ON
CONVENTIONAL CAPABILITY AND INTEROPERABILITY

AGENCY

NAME(s)

SECRETARIAT/ARMY STAFF:

DUSA(OR)	X Mr. Walter Hollis
	X Mr. Gene Visco (did not vote in Management Session)
	Mr. Harold Becker (NPC)
	Mr. Donald Goodrich (NPC)
	LTC Gary Cochard
	Mr. William Barr
Army Chair DSMC	X Ms. Joann Langston
ASA(I&L)	X Mr. Michael Owen
	COL Franklin Cochran
ASA(M&RA)	X Mr. William Clark
	LTC John Fulmer
ASA(FM)	X Mr. Wayne Grant
ASA(RDA)	X Mr. Keith Charles
DISC4	COL D. M. Kashporenko
	LTC Paul Schuessler
OCLL	LTC(P) Jim LaBounty
OPA	X BG Clyde Hennies
DCSPER	X MG Donald Eckelbarger
	Mr. Robert Klemmer
	Ms. Jeanne Patterson
	LTC Keith Fender
DCSINT	X Mr. James Davis
	Ms. Elizabeth Checchia
	LTC John Shull
DCSOPS	X BG Charles H. Armstrong
	X Mr. John Riente
	COL Hallenbeck
	LTC Kirk Curran
	MAJ Robert Blake

		Mr. Roger Golden
		Mr. John Elliot
		LTC Jim Kurtz
		LTC Murphy
		LTC Kit Johnston
		MAJ Richard Kaye
		LTC Stephen Smith
		LTC Norman Nuzzi
		LTC Bob Downes
		LTC Bob Taylor
		MAJ James Godwin
		LTC Dan Montgomery
		LTC John Lawrence
		Mr. Bob Mercer
		MAJ Craig Peterson
DCSLOG	X	BG Joseph Laposata
		Mr. Don Feeney
		COL Robert Hueffed
		MAJ William Ward
		LTC Dave Haas
COE	X	MG Robert Dacey
		COL Rick Charles
		Dr. Robert Oswald
		Mr. Dennis Smith
OTSG	X	MG Robert Buker
		LTC John T. Read
CAR		LTC(P) Cliff Massengale
		LTC Jim Coling
NGB	X	MG Donald Burdick
		COL John Philbrick
		LTC Dennis McKnight
DACS-DM	X	MG Robert Bunker
		MAJ Mark Olson
TRADOC		LTC Al Burckard
		LTC Jerry Simmons
AMC	X	BG Paul Greenberg
		COL Gifford Wilson
		Mr. John Lazaruk
		MAJ Walt Reading
		Mr. Rodney Smith
		Mr. Bob Brown
		Mr. Glenn Norfolk
		Mr. Murphy House
		Mr. Fred Blanchard
		LTC Buczacki

ANALYTICAL AGENCIES:

CAA	X	Mr. E.B. Vandiver COL John Cary CPT Daniel Gerstein Ms. Zelma Harms
RAND	X	Mr. Steve Drezner Mr. Bernie Rostker Mr. Kenneth Watman
TRAC-LVN	X	BG John Robinson COL W.A. Brinkley Ms. Leslie Lampella Mr. Walter Banks
AMSAA	X	Mr. Keith Myers Mr. John Kramar Mr. Michael Miller Mr. Arend Reid
ESC	X	Mr. Dean Considine Mr. Steve Reynolds Ms. Jill Davis Mr. Paul Seguin Mr. Allen Wilson Mr. Newell Murphy Mr. Victor LaGarde
ARI	X	Dr. Edgar Johnson

X = management session principal attendees and voters

- C -

**INTRODUCTORY/BACKGROUND PRESENTATIONS:
STATUS OF ANALYSIS**

- C1 -

IAP Workshops on Conventional Capability and Interoperability
6 January 1988 - Analysis Status Reports

The analytical agencies were requested to give status reports on studies relevant to Conventional Capability and Interoperability. Presenters were asked to cover:

- Issue
- Key questions addressed
- Major findings
- Actions to date or planned
- Gaps remaining relative to the questions addressed

CAA: Col. John Cary and Captain Dan Gerstein

- Models used are deterministic.
- DCSOPS is the sponsor of all the CAA studies.
- We don't really know how to address or define "optimum" force mix.
- When asked, the briefer said he did not have insights about the previous analysis as the people had changed (i.e., there is a gap in the insights about the previous activities in terms of direction, assumptions, etc.)
- They noted that they did not have enough time to brief on the limitations of the analyses.
- Significant analysis effort could have been freed up if it had not been turned to finding answers to questions for which the boss already had his answer.
- CAA always publishes results of its analyses whether the sponsor desires it to be widely published and distributed or not. The sponsoring agency may decide not to publish the reports themselves.
- They don't know how to analyse alternatives (CFRED?).
- They specifically have not looked at chemical or nuclear forces.

- C2 -

- The work on the high speed air cushion vehicle for water/sea transport is just now being briefed to the Navy. There is an attempt to have the concept accepted by the Navy and it is resisting. The Navy really does not want to be involved in developing and operating such a vehicle.

TRADOC: Col. Bill Brinkley

- As noted above in the case of the CAA, there are many shortcomings and gaps.

- We don't like the Pentagon reprioritizing things after TRADOC and AMC Four Stars sign off. It is disconcerting.

- Many studies shown had no findings to date: i.e., they are currently underway.

- We do not do a good job on trade off studies. We typically will not cut back studies and development. We simply carry things along. We must find a way to neck down/reduce the number of things we carry along.

- It does not make a (expletive) what type of rifle the soldier has.

- There are too many "eaches".

- TRADOC is responsible for approximately 85% of the Army analysis program. (But it did not have a heavy representation in the workshops.)

RAND: Bernie Roster and Ken Watman

- We are not model builders. We do not have models to which we bring problems. Rather we bring problems, build models for the problem and then throw the model away.

- The best work is done by people who have an orientation from more than one division of RAND.

- The optimization models typically employ linear programming.

- There was no real consideration of the people/personnel interactions with the weapon system in the analyses.

AMSAA: John Kramer

(The following comments relate to Conventional Capability)

- The work is heavily, if not exclusively, oriented toward the Soviets as the threat.

- C3 -

- About two years ago it was found that the Soviets could take out/jam our communications. But effort to address the problem is not yet funded. (When they spot deficiencies there does not seem to be a thrust to create funding to address deficiencies.)

- It is difficult to include any analyses/simulations on how the enemy will really respond.

(The following comments relate to Interoperability.)

AMSAA: Arend Reid

- We share methodologies with our Allies (e.g., the British).

- AMSAA is involved in detailed technical/hardware studies.

- The radio, communication problem in Grenada was discussed (i.e., the chopper setting down to allow communication with the leader on the ground).

- Many problems simply are not spotted until the system is out in the field or, in particular, in combat.

- It is extremely difficult, if not impossible, to test for Interoperability when you are testing a first of a kind item.

- We are bringing along certain weapons which are not required to be interoperable. And we are not telling our Allies about what we are doing.

ESC: Jill Davis

- There are many inputs to the ESC agenda. The IAP is only one.

- The missions and functions of engineering and engineering support are not included in Army missions, simulations, force structure, etc., considerations.

- ESC will do fewer IAP studies under the new CATS.

- D -

PARTICIPANTS IN INDIVIDUAL WORKSHOPS

- D1 -

GROUP ASSIGNMENTS FOR WORKSHOPS ON:

Conventional Capability

GROUP A:

LTC Nuzzi - Presenter
Mr. LaGarde
LTC Shull
LTC Haas
Mr. Kramar
Mr. Klemmer
COL Philbrick
Mr. Lazaruk

GROUP B:

LTC Downes - Presenter
LTC Fulmer
Mr. Rostker
LTC Kurtz
Mr. Reynolds
Mr. Feeney
LTC Coling
Mr. Banks
MAJ Blake

GROUP E:

LTC Taylor - Presenter
LTC Curran
LTC Simmons
LTC McKnight
Mr. Murphy
LTC Johnston
LTC Smith
LTC Read

Interoperability

GROUP C:

Mr. House - Presenter
LTC Burckark
LTC Schuessler
LTC Montgomery
MAJ Ward
Ms. Checchia
LTC Lawrence
Ms. Harms
Mr. Norfolk

GROUP D:

Mr. Miller - Presenter
Mr. Wilson
Ms. Lampella
LTC Massengale
Mr. Blanchard
Ms. Davis
MAJ Reading
Ms. Patterson

- E -

RELEVANCE TREES OF TOPICS RELATED TO
CONVENTIONAL CAPABILITY AND INTEROPERABILTY

CONVENTIONAL CAPABILITY

1.0 PERSONNEL

2.0 EQUIPMENT

3.0 MOBILIZATION &
DEPLOYMENT

4.0 FACILITIES

5.0 SUSTAINMENT

6.0 ORGANIZATION
& STRUCTURE

7.0 INFORMATION
MANAGEMENT

8.0 POLITICAL
RELATIONS

1.0 PERSONNEL

1.1 MANNING

1.2 TRAINING

1.3 FUNDING/
BUDGETING

1.1.1 RECRUITING

1.2.1 LEADERSHIP

1.3.1 PAY SCALES

1.1.2 RETRAINING

1.2.2 READINESS

1.3.2 SUPPORT
SYSTEMS

1.1.3 SUPPORTING
(FAMILY PROGRAMS,
LEGAL, MEDICAL, ETC.)

2.0 EQUIPMENT (HE, CHEM, BIO)

2.1 ABILITY TO GENERATE NEW CONCEPTS (INNOVATION)	2.2 WEAPONS REQUIREMENTS/ NEEDS	2.3 PRODUCTION CAPACITY	2.4 COSTS
2.1.1 PERSONNEL	2.2.1 PERFORMANCE/ EFFECTIVENESS	2.3.1 PLANT & EQUIPMENT	2.4.1 R & D
2.1.2 LAB/TEST EQUIPMENT	2.2.2 AVAILABILITY (NOS.)	2.3.2 ORGANIZATION & PERSONNEL	2.4.2 PRODUCTION
2.1.3 PLANT	2.2.3 RELIABILITY, MAINTAINABILITY	2.3.3 STRATEGIC MATERIALS	2.4.3 O & M
	2.2.4 VULNERABILITY	2.3.4 ENERGY	

3.0 MOBILIZATION & DEPLOYMENT

3.1 MILITARY PERSONNEL	3.2 PRODUCTION	3.3 TRANSPORTATION	3.4 COMMUNICATION
3.1.1 ACTIVE	3.2.1. PLANT & EQUIPMENT	3.3.1 GROUND	3.4.1 SECURE
3.1.2 RESERVE	3.2.2 CIVILIAN PERSONNEL	3.3.2 AIR	3.4.2 UNSECURE
3.1.3 GUARD		3.3.3 SEA	

4.0 FACILITIES

4.1 MILITARY HOUSING	4.2 TRAINING	4.3 MAINTENANCE	4.4 STORAGE/ WAREHOUSING
4.1.1 BARRACKS	4.2.1 FIRING RANGES	4.3.1 MOTOR POOL	4.4.1 WEAPONS
4.1.2 MESS	4.2.2 PROVING GROUNDS	4.3.2 HANGARS	4.4.2 MUNITIONS
4.1.3 MEDICAL	4.2.3 SIMULATORS		4.4.3 POL
4.1.4 RECREATIONAL	4.2.4 CBW		4.4.4 PARTS
4.1.5 FAMILY SUPPORT (e.g. DAY CARE)	4.2.5 COMBAT/ SURVIVAL		4.4.5 GEAR/ CLOTHING
			4.4.6 FOOD

5.0 SUSTAINMENT
(HE, CHEM, BIO)

5.1 EQUIPMENT

5.1.1 WEAPON SYSTEMS
REPLACEMENT

5.1.2 MUNITIONS

5.1.3 CONSUMABLES

5.2 PERSONNEL

5.2.1 COMBAT PERSONNEL
REPLACEMENT

5.2.2 FOOD STUFFS

5.2.3 GEAR

5.2.4 CLOTHING

6.0 ORGANIZATION & STRUCTURE

6.1 MILITARY FORCES

6.1.1 INTRA SERVICE
(ARMY)

6.1.2 INTER SERVICE/JOINT
(ROLES & MISSION)

6.1.3 COMBINED
(ALLIES)

6.2 PRIVATE SECTOR

6.2.1 PRODUCTION

6.2.2 TRANSPORTATION

6.2.3 COMMUNICATIONS

7.0 INFORMATION MANAGEMENT

7.1 INTELLIGENCE	7.2 BATTLE MANAGEMENT	7.3 PROGRAM MANAGEMENT
7.1.1 GATHERING	7.2.1 INTERPRETING	7.3.1 R & D
7.1.2 INTERPRETING	7.2.2 DECISION MAKING	7.3.2 PRODUCTION
7.1.3 COMMUNICATING	7.2.3 COMMUNICATING/ COORDINATING	7.3.3 OPERATIONS
7.1.4 COUNTER INTELLIGENCE	7.2.4 EVALUATING	

8.0 POLITICAL RELATIONS
(DOMESTIC & FOREIGN)

8.1 RULES & MISSIONS

8.1.1 AMONG NATIONS

8.1.2 AMONG SERVICES

8.2 BUDGETS/FUNDINGS
REQUESTS

8.2.1 OTHER NATIONS

8.2.2 THE CONGRESS

8.2.3 THE PUBLIC

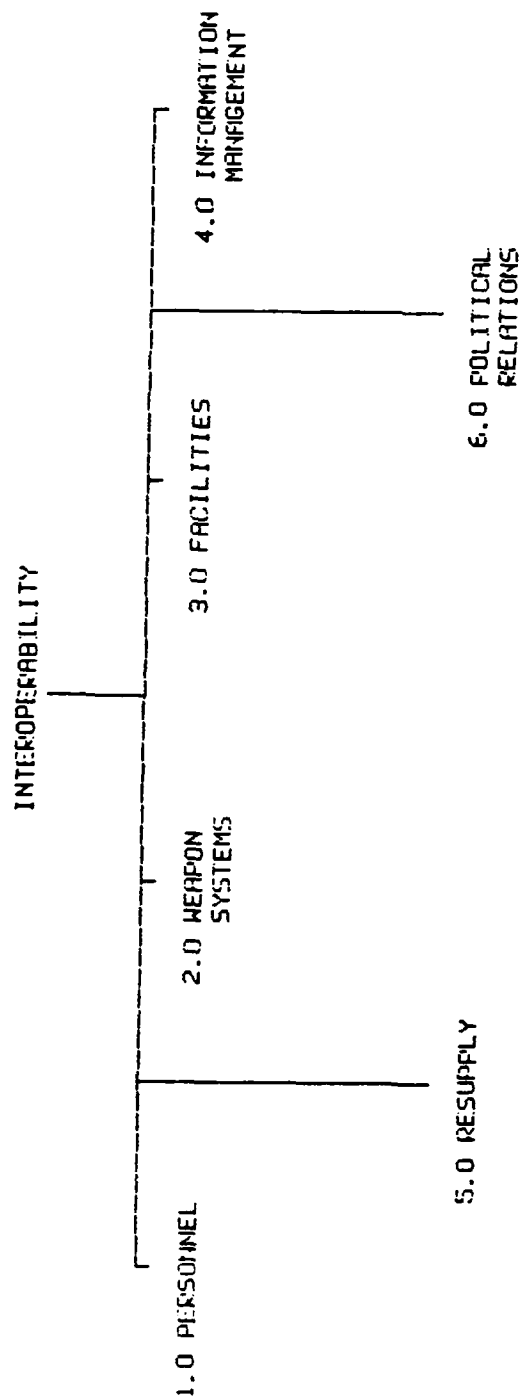
8.2.4 THE MEDIA

8.3 SOURCING

8.3.1 ORIGINAL EQUIPMENT

8.3.2 RESUPPLY

8.3.3 MAINTENANCE



1.0 PERSONNEL

1.1 INFIRMING

1.2 AVAILABILITY

1.3 MEDICAL SUPPORT

1.1.1 HARDWARE

1.2.1 NUMBER

1.3.1 EVALUATION

1.1.2 SOFTWARE

1.2.2 ACCESSIBILITY

1.3.2 TREATMENT

1.1.3 LEADERSHIP

1.2.3 LOCATION

1.3.3 REHABILITATION

1.1.4 DISCIPLINE

1.2.4 STRUCTURE

2.0 WEAPON SYSTEMS
(CONVENTIONAL, NUCLEAR, CHEM/BIO)

2.1 EQUIPMENT

2.1.1 AVAILABILITY

2.1.2 COMINCALITY

2.1.3 COMBAT PERFORMANCE/
EFFECTIVENESS

2.1.4 COST

2.2 MAINTENANCE

2.2.1 SPARES/INVENTORY

2.2.2 TEST/CHECKOUT

2.2.3 PERSONNEL

3.0 FACILITIES

3.1 SITING

3.2 CAPACITY

3.3 INTERFACES

3.1.1 LOCATION

3.2.1 WAREHOUSING

3.3.1 POWER

3.1.2 ACCESSIBILITY

3.2.2 DEPOT MAINTENANCE

3.3.2 POL

3.1.3 MOBILITY

3.3.3 SUPPORT EQUIP.

4.0 INFORMATION MANAGEMENT
(C3I)

4.1 LANGUAGE

4.2 EQUIPMENT

4.3 PLANS

4.1.1 TECHNICAL

4.2.1 COMPATABILITY

4.3.1 DATA COORDINATION

4.1.2 CONVERSATIONAL

4.2.2 FUNCTIONAL
COORDINATION

4.3.2 INTERPRETATION

4.1.3 ETHNIC/CULTURAL

4.2.3 VULNERABILITY

4.3.3 DECISION MAKING

4.3.4 JOINT ACTIONS

5.0 RESUPPLY
(CONVENTIONAL, NUCLEAR, CHEM/BIO)

5.1 EQUIPMENT

5.1.1 WEAPON SYSTEMS
REPLACEMENT

5.1.2 MUNITION

5.1.3 CONSUMABLES

5.2 PERSONNEL

5.2.1 COMBAT PERSONNEL
REPLACEMENT

5.2.2 FOOD STUFFS

5.2.3 GEAR

5.2.4 CLOTHING

6.0 POLITICAL RELATIONS
(DOMESTIC & FOREIGN)

6.1 BUDGETS/FUNDING

6.2 PUBLIC RELATIONS

6.3 SOURCING

6.1.1 AMONG SERVICES

6.2.1 GOVERNMENT'S

6.3.1 ORIGINAL EQUIP.

6.1.2 AMONG NATIONS

6.2.2 THE PUBLIC

6.3.3 RESUPPLY

6.2.3 THE MEDIA

6.3.3 MAINTENANCE

- F -

PRIORITIES OF ISSUES AND NOMINATED QUESTIONS

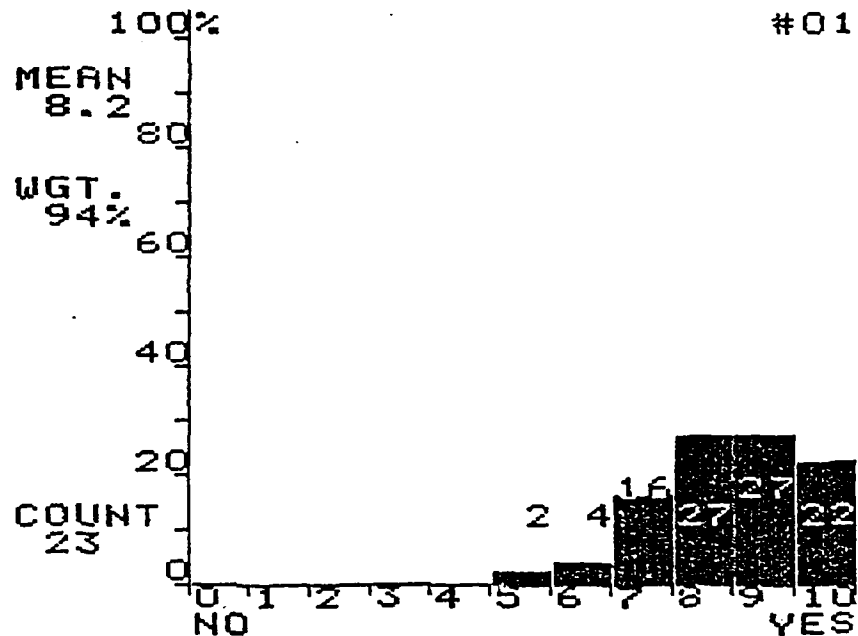
The following material presents the priority ratings for the five policy issues and the questions nominated as key to understanding the issue in question. The ratings, and the nominated questions, were provided by senior leaders of the Army's Staff, Secretariat and analytical community. The ratings were based on importance: in the case of issues, importance associated with the need to adequately understand the issue; in the case of questions, the degree to which the question is critical to the Army's ability to acquire that understanding and, thus, formulate policies and actions to resolve the issue.

To provide the rating of importance the participants used a voting machine called the CONSENSOR. The device allowed each voter to provide his or her opinion anonymously about the subject being discussed by using a small, individual terminal. If a participant believed the item under consideration was of maximum importance (i.e., nothing of greater importance), he or she was asked to give it a rating of ten (10). If he or she believed that an item under consideration was of little or no importance, it was to be rated zero (0). The CONSENSOR also allowed each participant to choose intermediate points on the above scale. Finally, a second knob on the terminal used by each participant allowed the voter to discount his or her vote--in this case by the degree of confidence he or she had in the answer being correct.

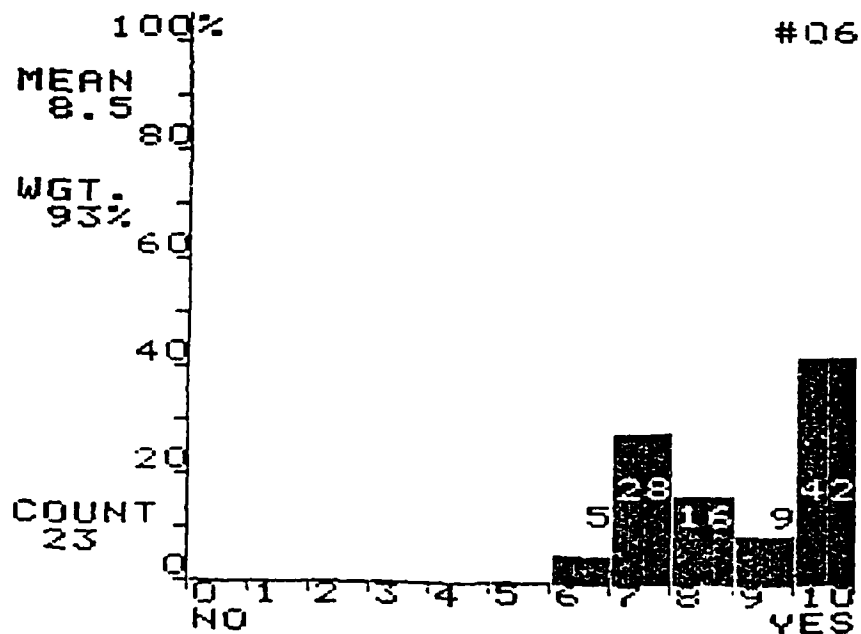
Prior to each vote, the participants were asked to offer any opinions they believed should be considered. Then the votes were registered and answers from all participants were combined electronically and displayed in the form of a histogram on a television monitor, as shown on the following pages.

The mean is the mathematical average of the vote, including the discount by each voter of his or her vote on how confident he or she was in the answer being correct. The confidence is designated as "weight", where the voter could choose zero (0), twenty-five (25), fifty (50) or one hundred (100). Zero (0) completely discounted a vote, fifty (50) gave a vote one-half weight, one hundred (100) gave it full weight, etc. The weights shown on the following pages are the average weight of all voters.

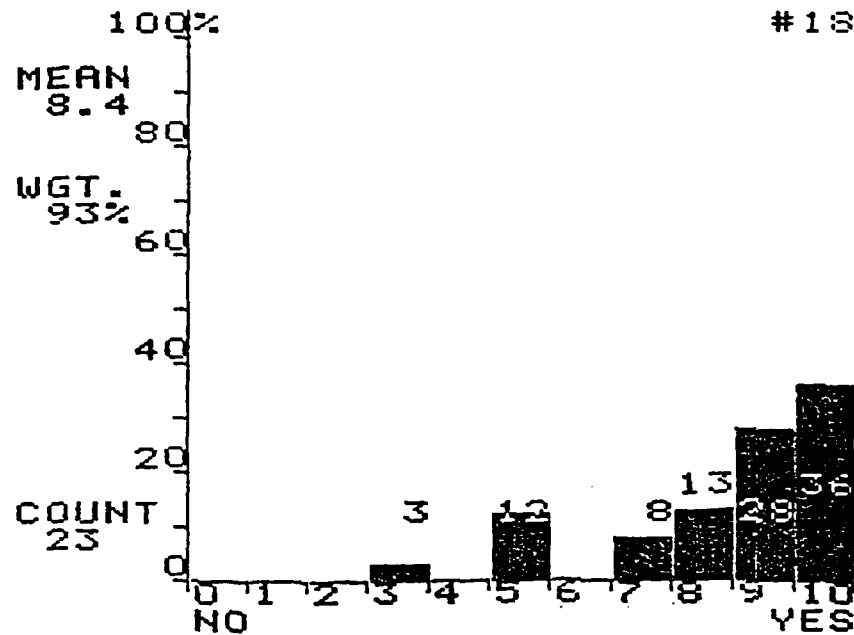
ISSUE: Conventional Capability: enhancing conventional force structure in light of INF and/or conventional arms control, including doctrine for balancing the requirements of low intensity conflict with other needs.



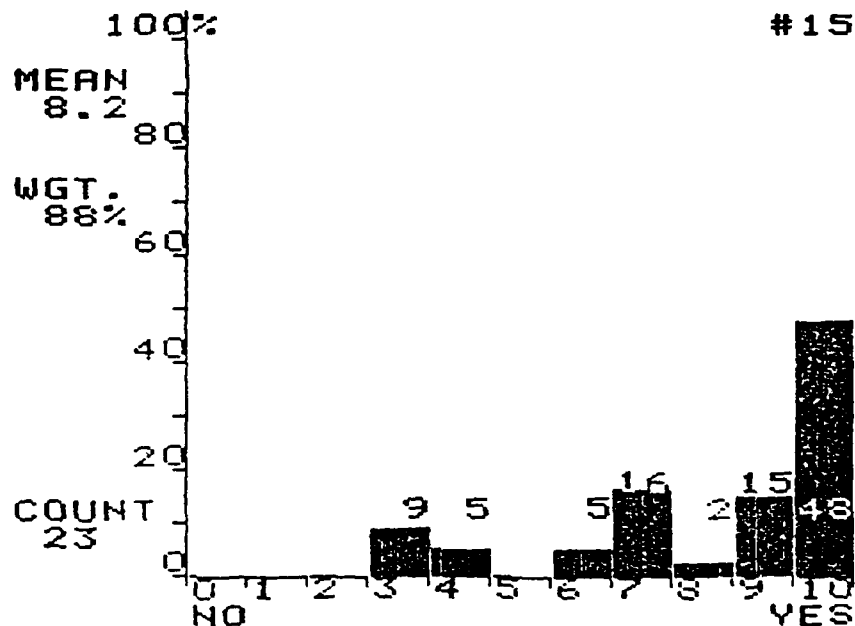
QUESTION 1: What are the shortcomings in the Army's ability to perform its role in the Air/Land Battle and what steps should be taken to remove them?



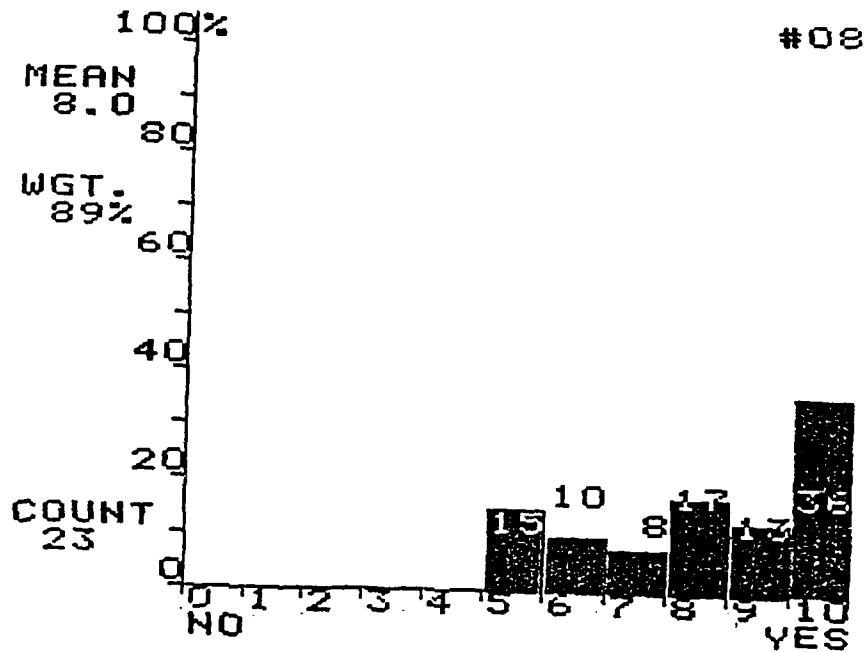
QUESTION 2: How can the Army's non-combat resources (e.g., medical services, engineering) be used to deter low intensity conflict?



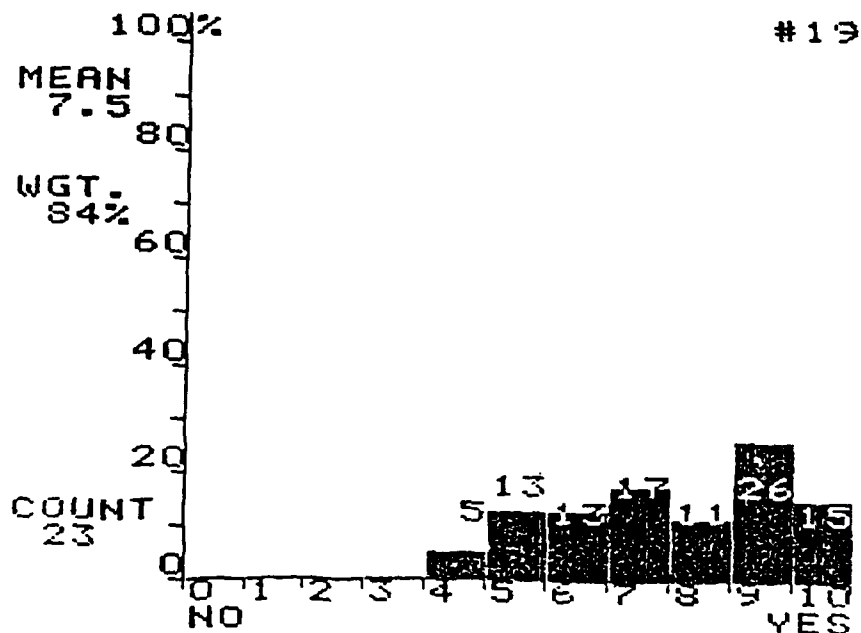
QUESTION 3: What are the opportunities and risks for the Army as a result of the INF treaty?



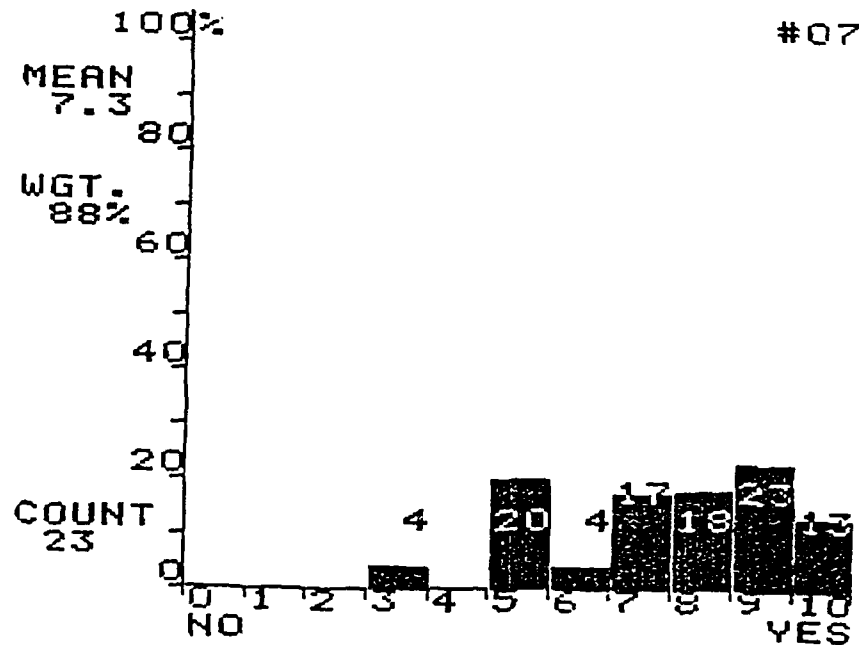
QUESTION 4: How should the requirements generation process be changed to improve the Army's ability to perform an appropriate mission in National Defense?



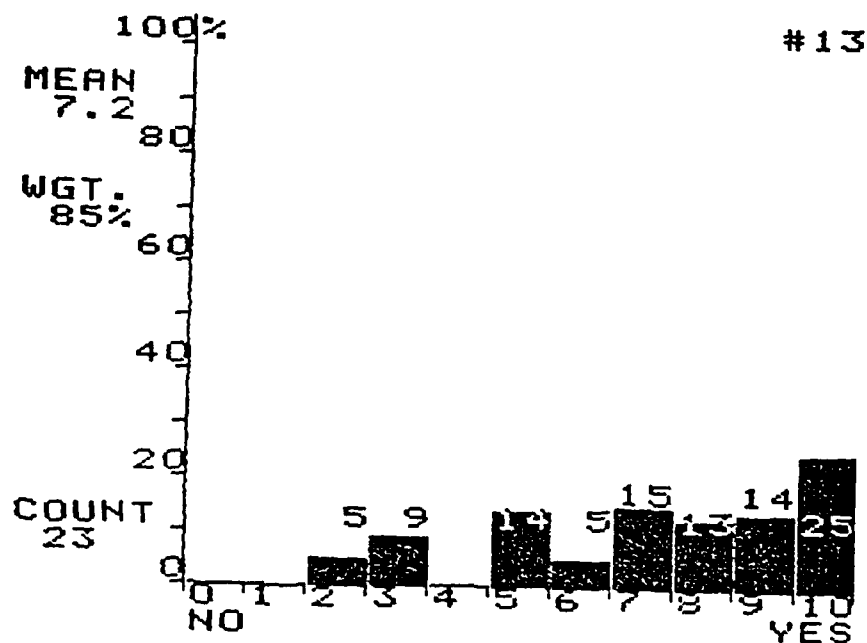
QUESTION 5: What approaches should be used to ensure that the Army is properly manned, including civilian and military personnel?



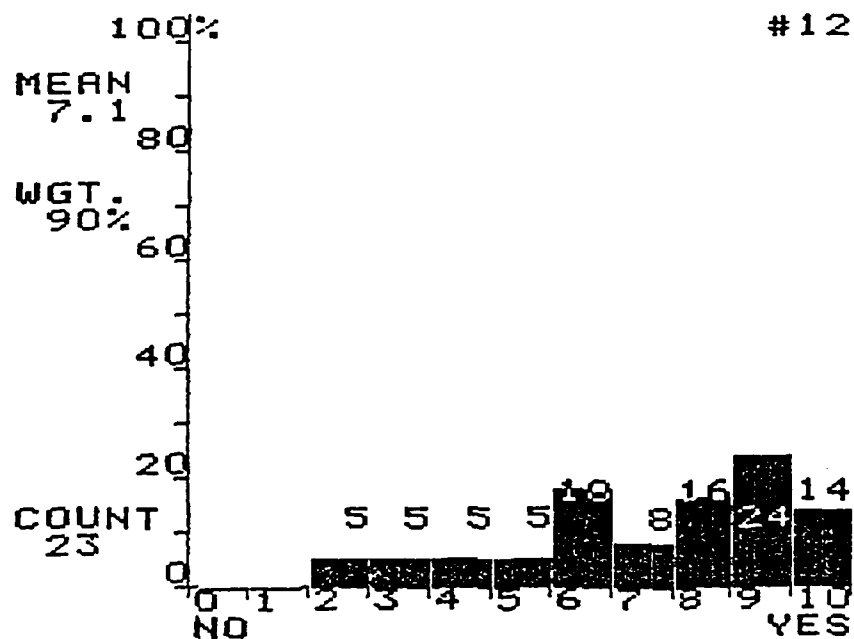
QUESTION 6: What approaches should be used to reduce the time associated with fielding equipment?



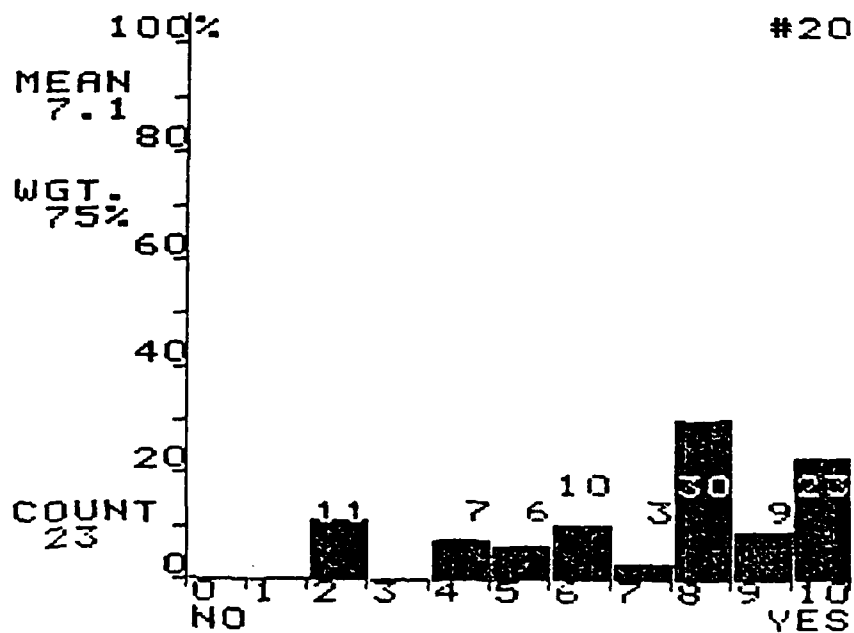
QUESTION 7: Are there differences and important consequences in being prepared to deter versus successfully engaging in warfighting?



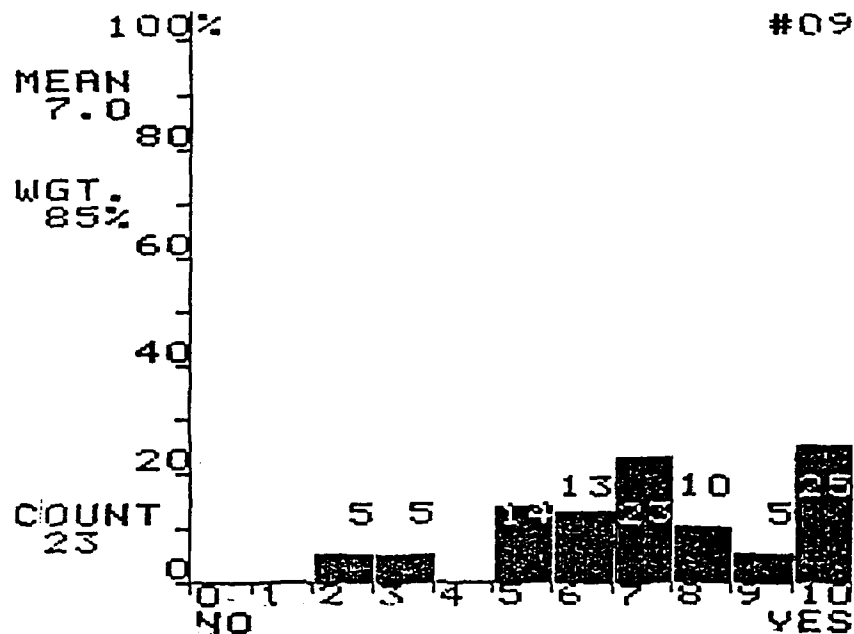
QUESTION 8: What is the optimal mix of Active, Reserve, and National Guard forces?



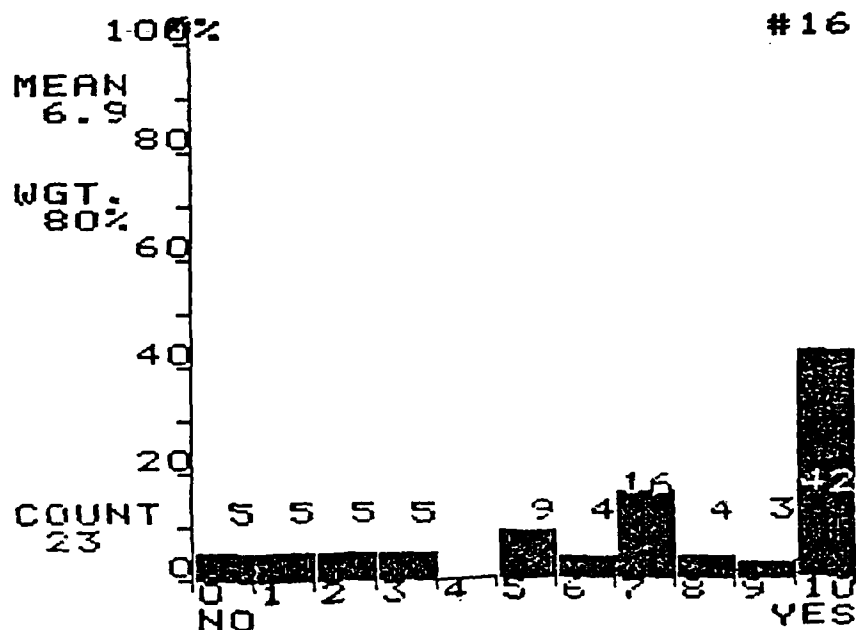
QUESTION 9: How can the Army improve its ability to effectively benefit from visionary/future oriented analysis?



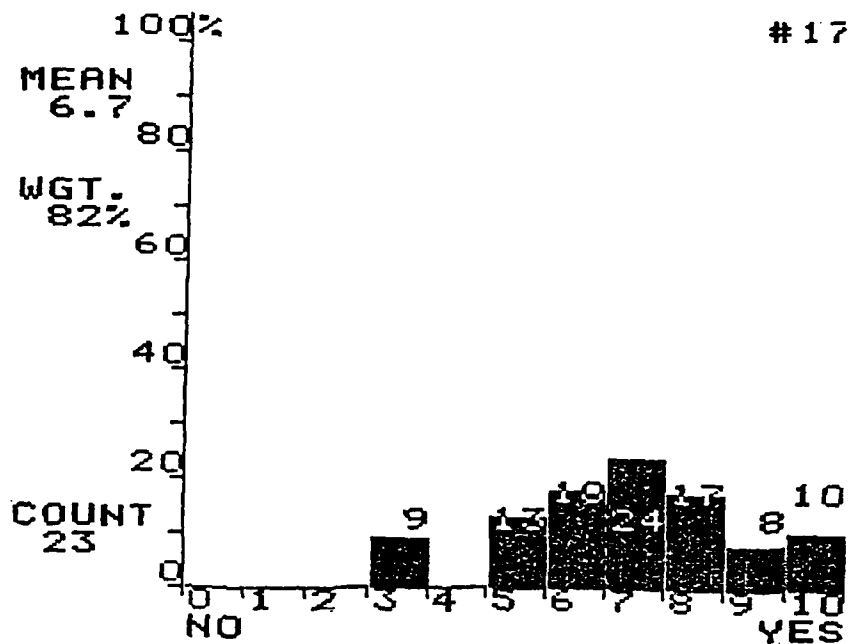
QUESTION 10: What should be done to remove shortcomings in the Army's organizational structure?



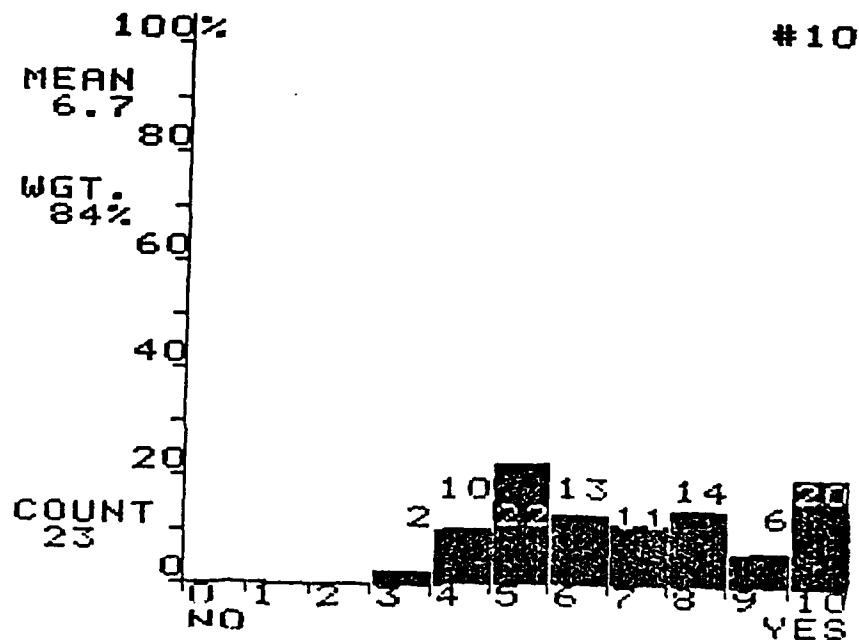
QUESTION 11: Should the Army conduct political gaming, and if so, how?



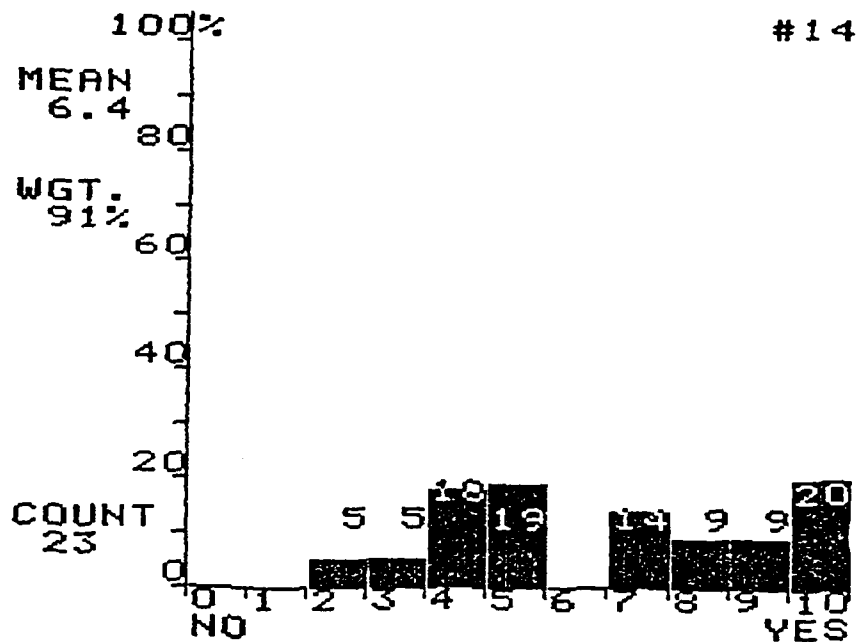
QUESTION 12: How can strategic mobility/deployment of heavy forces be improved?



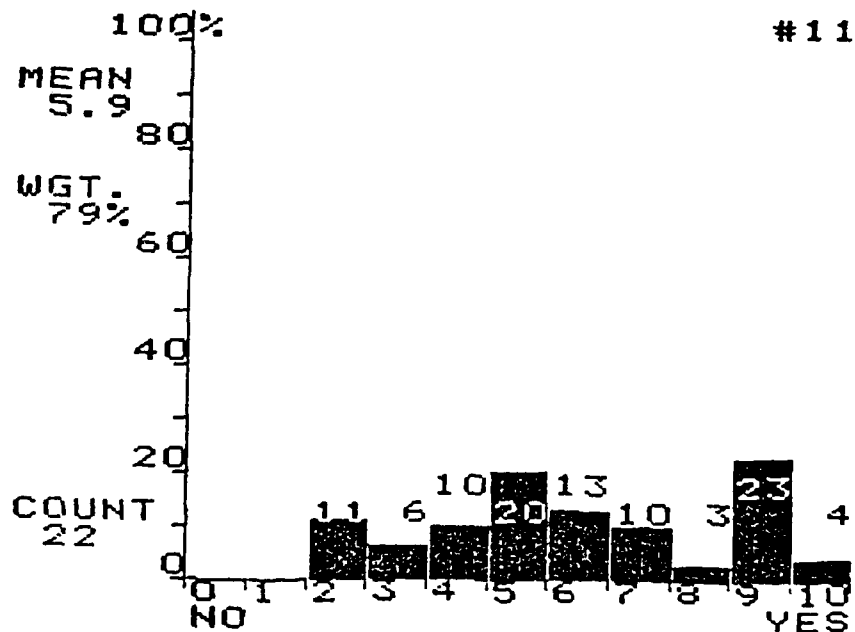
QUESTION 13: How can intra-theater/tactical mobility of friendly forces be improved?



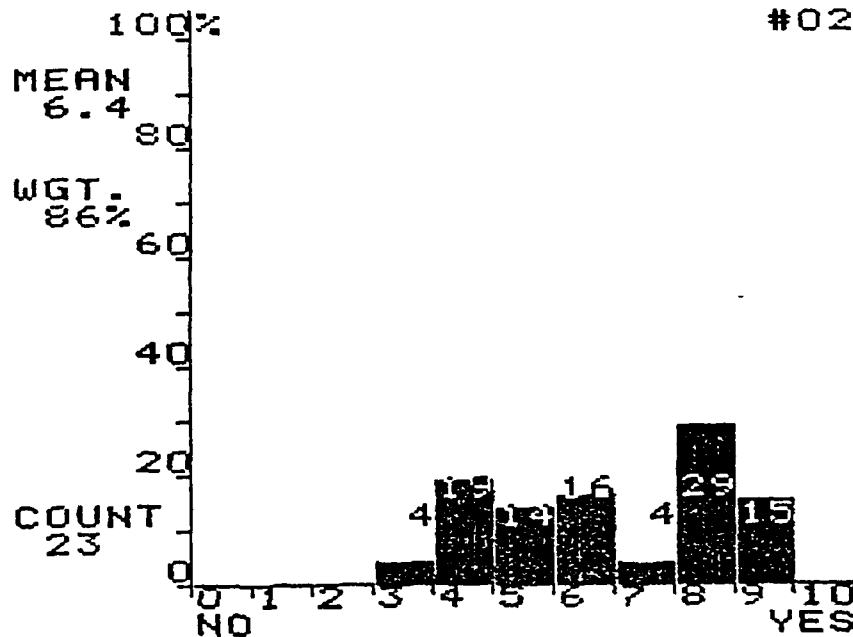
QUESTION 14: What is the impact of allocating resources on the basis of "sharing the wealth/getting a piece of the pie"?



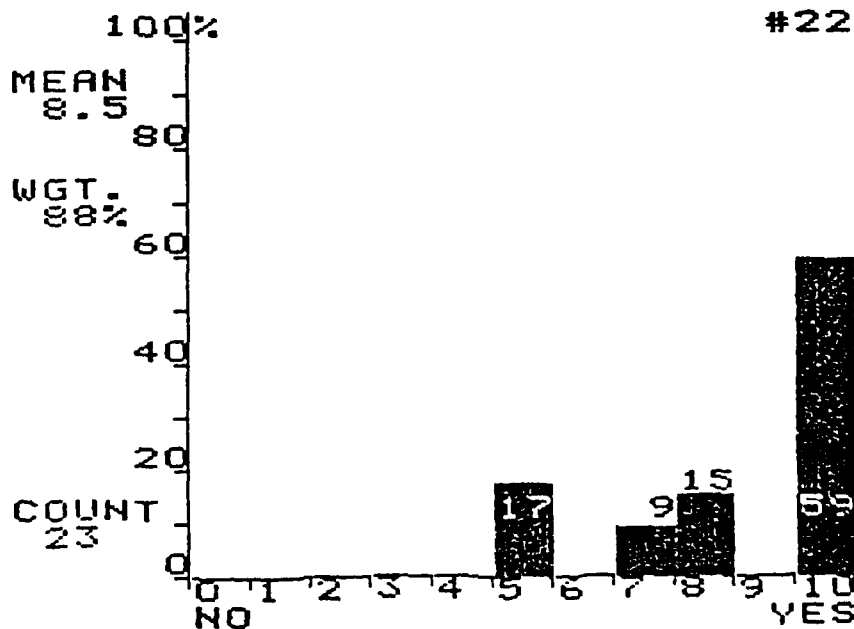
QUESTION 15: What should be done to reduce the tendency and consequences of overlooking, ignoring or paying inadequate attention to second-order (i.e., the detailed) items?



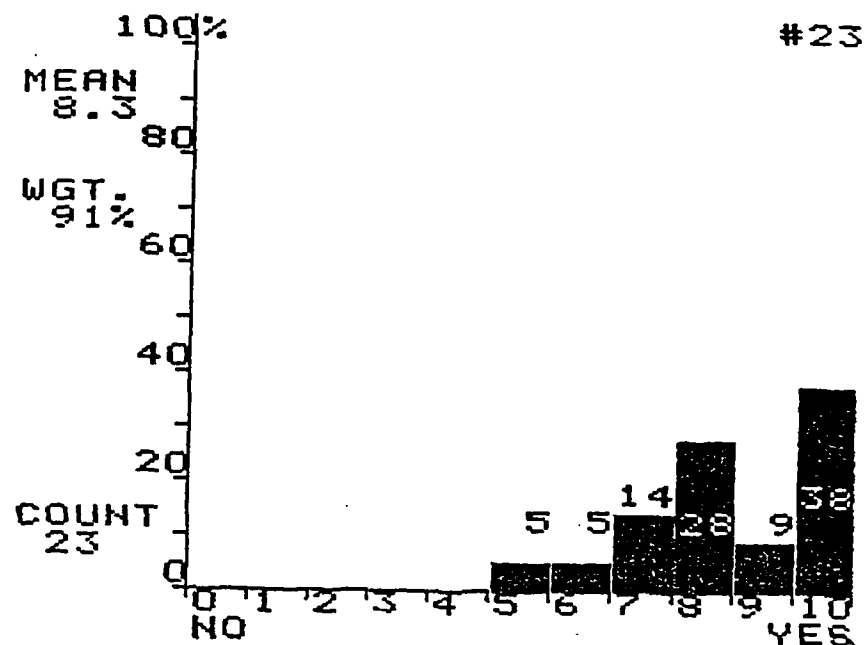
ISSUE: Interoperability: providing effective deterrence and warfighting capability in operations that include the other services and forces of our allies in various theaters.



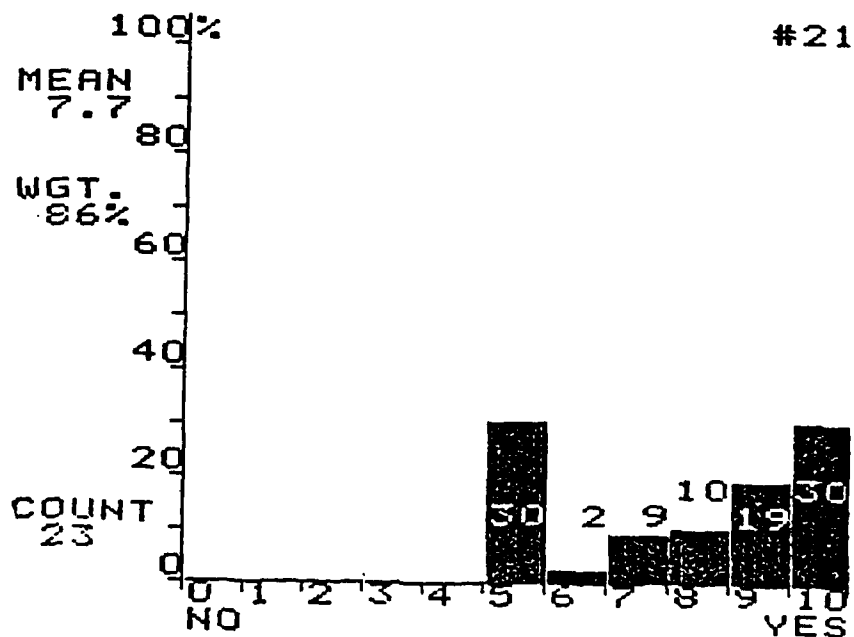
QUESTION 1: What approach should the Army use to understand and address political realities?



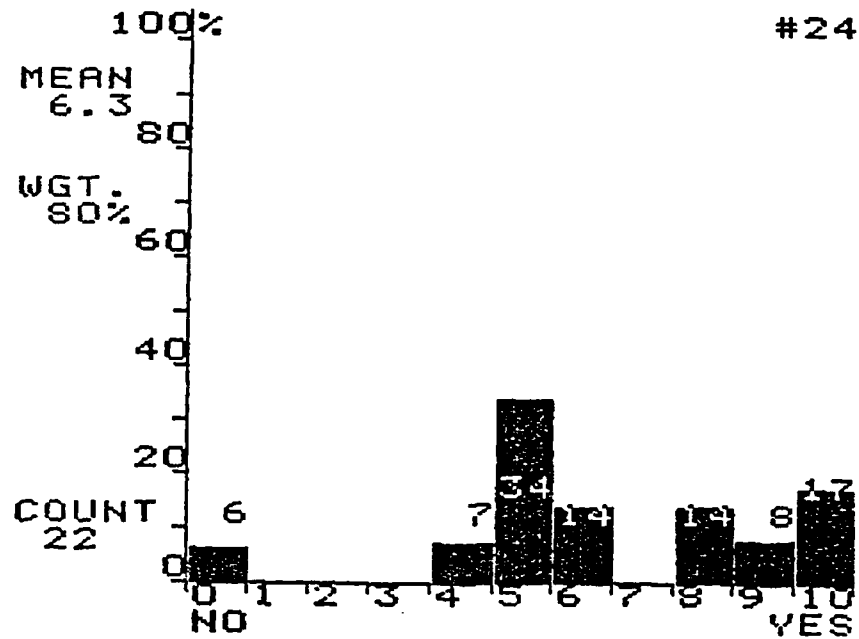
QUESTION 2: What should be done to improve the Army's ability to accomplish trade-off analysis?



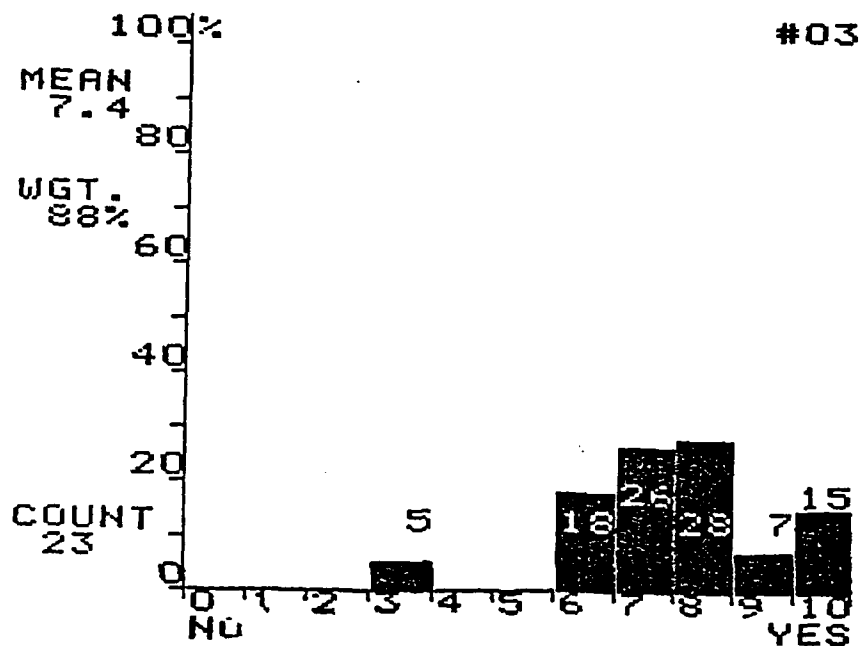
QUESTION 3: What approaches should the Army take to ensure that it develops a "grand strategy" that incorporates the interactions among all top priority issues?



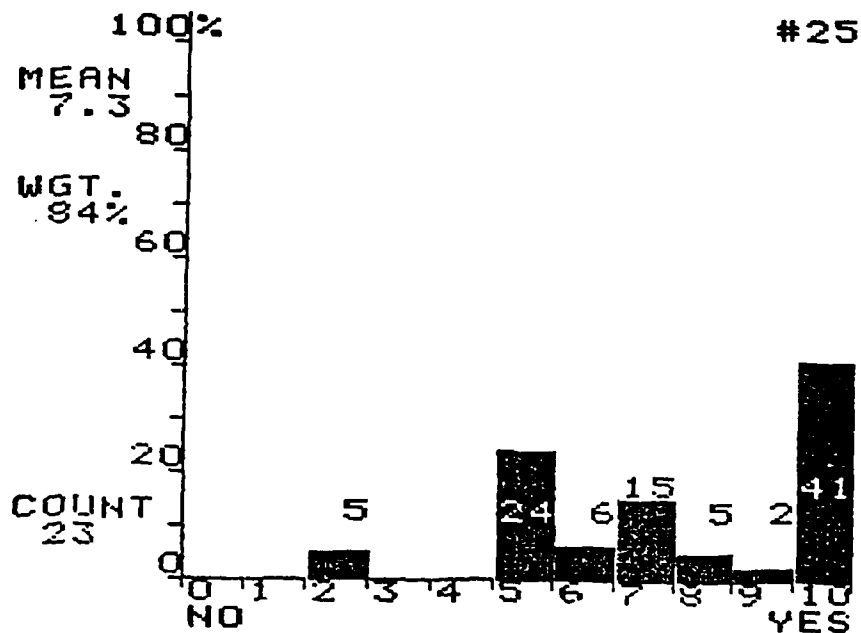
QUESTION 4: What should be done to ensure that Allies and friends who have purchased U.S. weapons have and/or receive adequate munitions?



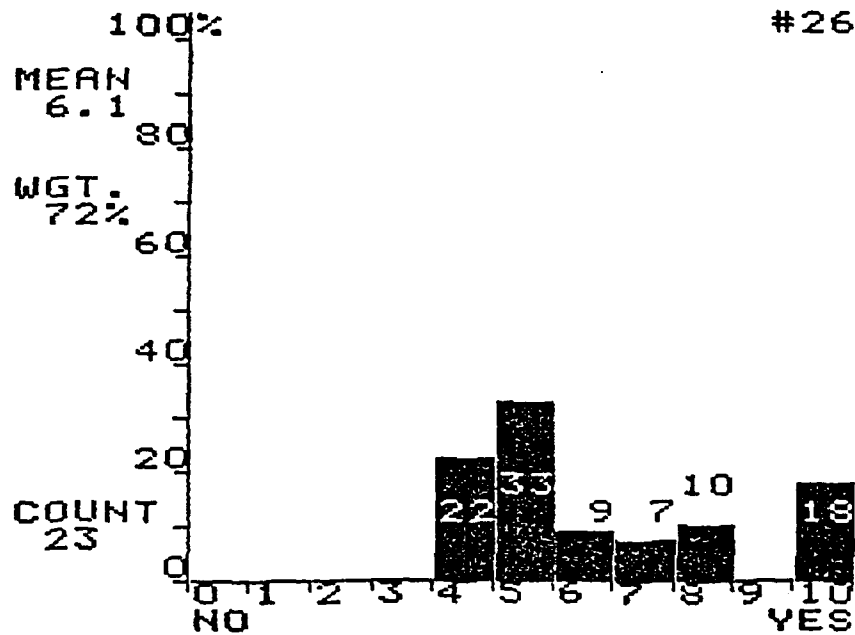
ISSUE: Sustainability: measuring the ability to sustain combat forces in various theaters and levels of conflict and advising commanders of the implications of alternative operations.



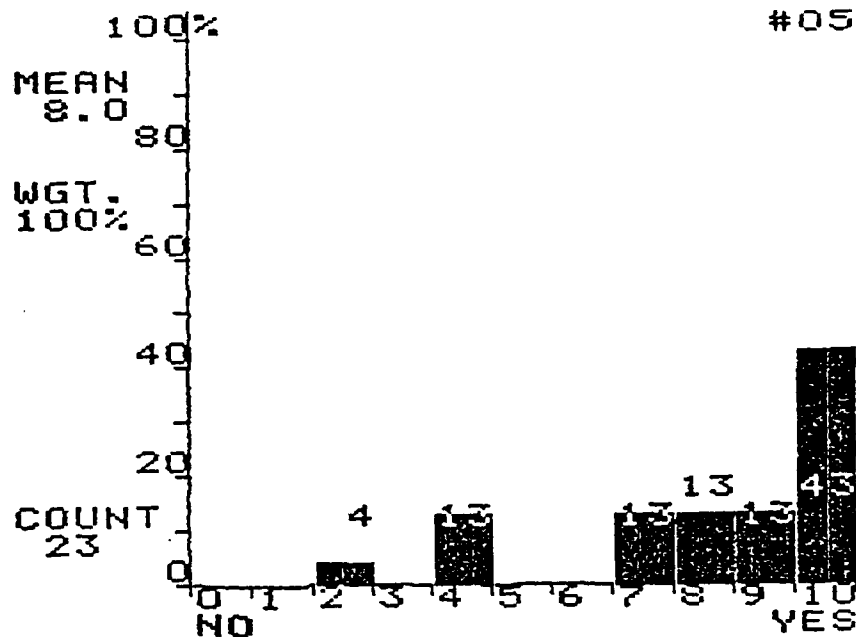
QUESTION 1: What reserves are needed to account for ordinary wear and tear plus combat attrition during the D-day through production rollout time period?



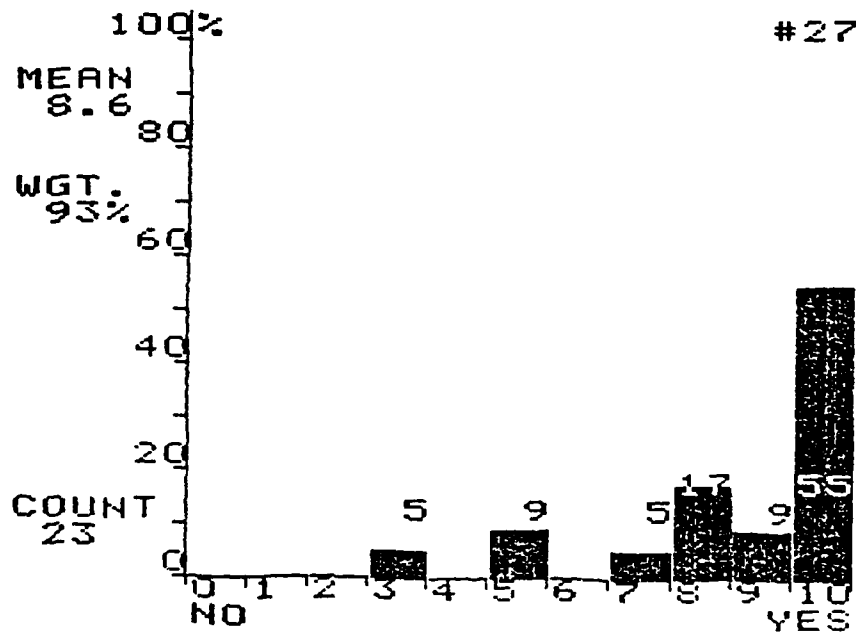
QUESTION 2: What is the proper siting philosophy for reserve materiel in light of combat requirements and likely attrition (survivability)?



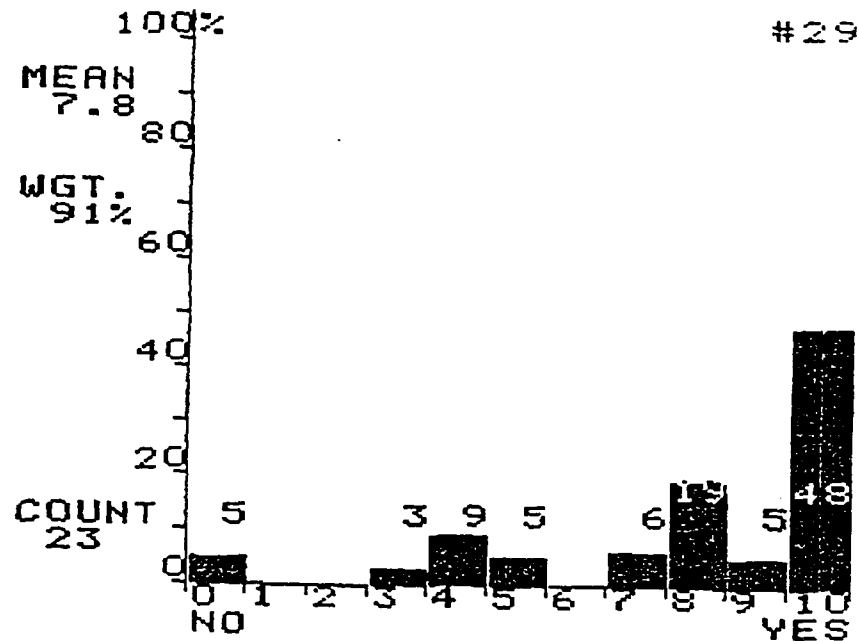
ISSUE: Explaining the Army: explaining the Army's contribution to National Defense to a variety of audiences.



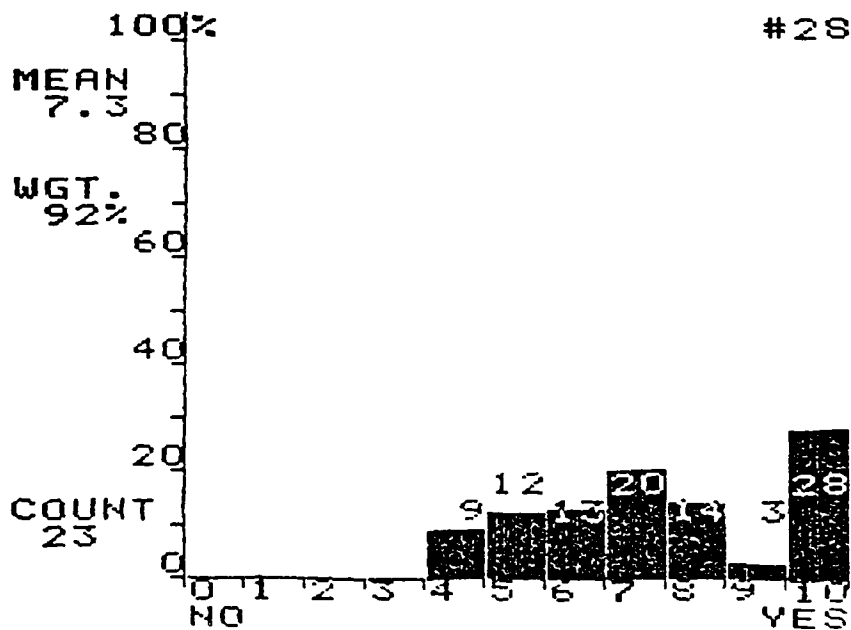
QUESTION 1: What approaches can be used to increase the involvement of the Army team in public/governmental affairs, including educating Army leadership about the importance of their participation in those activities?



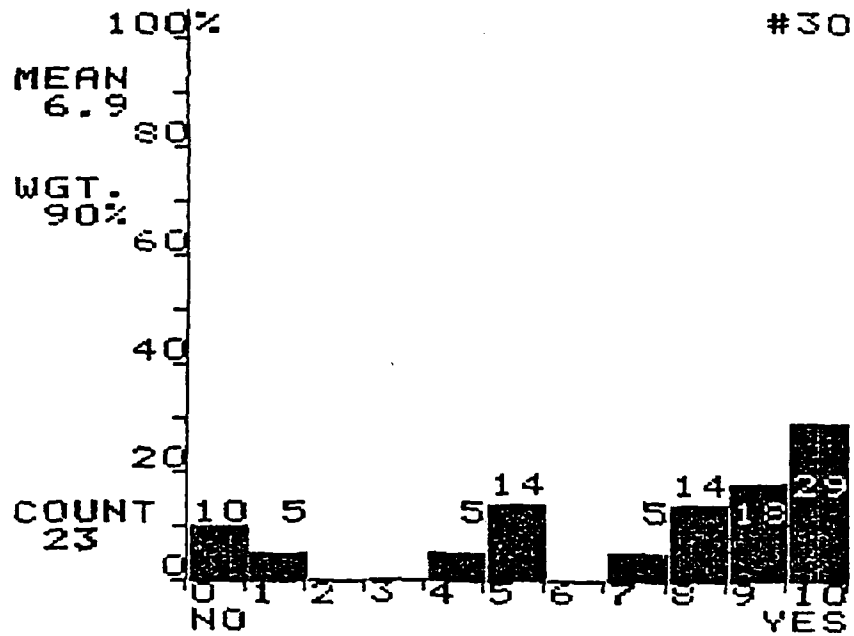
QUESTION 2: How can a national consensus be developed regarding the Army's role?



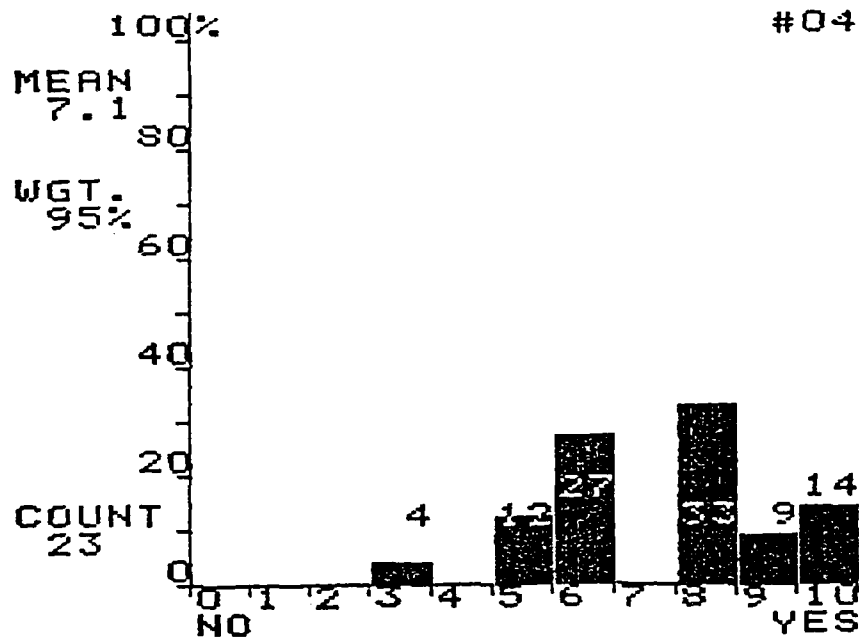
QUESTION 3: What is the impact of the Army's historic approach to its role on its ability to be proactive?



QUESTION 4: Should the Army develop a theme, and if so, how and what should be included?



ISSUE: Supporting the Soldier: maintaining a quality force in light of adverse demographics, budget constraints, political pressures and social attitudes.



QUESTION: NONE